

WHAT IS CLAIMED IS:

1. For use with an electric meter chassis having a dielectric housing protruding therefrom, an antenna for allowing electric meter circuitry within said chassis to communicate wirelessly through said dielectric housing, comprising:

a wireless communication circuit couplable to said electric meter circuitry; and

an antenna element located within said dielectric housing coupled to said wireless communication circuit.

2. The antenna as recited in Claim 1 wherein said antenna generally conforms to a portion of an internal surface of said dielectric housing.

3. The antenna as recited in Claim 1 wherein said chassis comprises electric meter circuitry located in a circuit board rack within said dielectric housing, said antenna located between circuit boards in said circuit board rack.

4. The antenna as recited in Claim 1 wherein said chassis
2 comprises:
3 electric meter circuitry located in said dielectric housing;
4 and
5 an electromagnetic shield located about at least a portion of
6 said electric meter circuitry.

5. The antenna as recited in Claim 1 wherein said antenna
2 element is arcuate and has a flattened lateral cross section.

6. The antenna as recited in Claim 1 wherein said antenna is
2 a dipole antenna.

7. The antenna as recited in Claim 1 wherein said wireless
2 communication circuit has a carrier frequency of between 700 and
3 950 megahertz.

8. For use with an electric meter chassis having a dielectric housing protruding therefrom, a method of manufacturing an antenna for allowing electric meter circuitry within said chassis to communicate wirelessly through said dielectric housing, comprising the steps of:

providing a wireless communication circuit couplable to said electric meter circuitry; and

locating an antenna element within said dielectric housing, said antenna coupled to said wireless communication circuit.

9. The method as recited in Claim 8 further comprising causing said antenna to generally conform to a portion of an internal surface of said dielectric housing.

10. The method as recited in Claim 8 further comprising placing electric meter circuitry in a circuit board rack within said dielectric housing, said antenna located between circuit boards in said circuit board rack.

11. The method as recited in Claim 8 further comprising:
placing electric meter circuitry in said dielectric housing;
and
placing an electromagnetic shield about at least a portion of said electric meter circuitry.

12. The method as recited in Claim 8 further comprising
2 forming said antenna into a metal arc having a flattened lateral
3 cross section.

13. The method as recited in Claim 8 wherein said antenna is
2 a dipole antenna.

14. The method as recited in Claim 8 further comprising
2 generating a carrier frequency of between 700 and 950 megahertz in
3 a wireless communication circuit.

15. An electric meter, comprising:

an electric meter chassis having a dielectric housing protruding therefrom;

electric meter circuitry;

a wireless communication circuit couplable to said electric meter circuitry; and

an antenna element located within said dielectric housing coupled to said wireless communication circuit.

16. The meter as recited in Claim 15 wherein said antenna generally conforms to a portion of an internal surface of said dielectric housing.

17. The meter as recited in Claim 15 further comprising an electromagnetic shield located about at least a portion of said electric meter circuitry.

18. The meter as recited in Claim 15 wherein said antenna is arcuate and has a flattened lateral cross section.

19. The meter as recited in Claim 15 wherein said antenna is a dipole antenna.

20. The meter as recited in Claim 15 wherein said wireless
2 communication circuit has a carrier frequency of between 700 and
3 950 megahertz.

21. The meter as recited in Claim 15 wherein said wireless
2 communication circuit communicates meter billing information.

22. The meter as recited in Claim 15 wherein said wireless
2 communication circuit communicates information selected from the
3 group consisting of:
4 energy usage,
5 power demand, and
6 power factor.

23. The meter as recited in Claim 15 wherein said wireless
2 communication circuit communicates information selected from the
3 group consisting of:
4 time of use, and
5 interval recordings of energy usage.

1 24. The meter as recited in Claim 15 wherein said wireless
2 communication circuit communicates information selected from the
3 group consisting of:
4 power quality information,
5 power outage information,
6 site analysis information, and
7 diagnostic information.

10 25. The meter as recited in Claim 15 wherein said chassis
2 comprises a capacitively backed up power supply that powers said
3 electric meter circuitry and said wireless communication circuit,
4 thereby allowing said wireless communication circuit to communicate
5 power outage information during a loss of power.

10 26. The meter as recited in Claim 15 wherein said balance
2 circuit is a microstrip.

10 27. The meter as recited in Claim 15 wherein said chassis
2 comprises a flex strip connector that couples said wireless
3 communication circuit to said electric meter circuitry.